U.S. Department of Homeland Security
500 C Street, SW
Washington, DC 20472

OCT 2 7 2014

FEMA

The Honorable Scott Rigell
U.S. House of Representatives
Washington, DC 20515

Dear Representative Rigell:

In my previous letter dated September 19, 2014, I informed you that the Department of Homeland Security, Federal Emergency Management Agency (FEMA), needed additional time to research and respond to your request dated August 29, 2014. Your letter addressed two issues. The first issue relates to whether permitting the alteration of a sand dune currently located in both Zone V and Zone AE on a current Flood Insurance Rate Map (FIRM) would violate Federal law. The second issue concerns why FEMA's proposed update of the City of Norfolk's (City) FIRM shows flood hazards different than those of the current FIRM. As explained in more detail below, the City's current floodplain ordinance, not FEMA's minimum floodplain management regulations, prohibits the alteration of primary frontal sand dunes in Zone AE. In addition, FEMA's restudy of the City's flood hazards shows an increase and widening of flood hazard zones, based on scientific and technical data. In light of the inclusion of the primary frontal dune in Zone VE on the proposed FIRM, FEMA strongly supports the City's higher floodplain standard, as primary frontal dunes afford protection from flooding.

BACKGROUND

Proposed Dune Alteration

Your constituents expressed concern that sand blowing landward is increasing the height of dunes and, in some instances, accumulating on their properties. In October 2013, numerous homeowners in the Cottage Line neighborhood applied for permits with the City's Wetlands Board to modify sand dunes bayward of their property. In response to the request, the City commissioned an engineering study to assess whether the proposed modifications to the sand dunes would increase the potential for coastal flooding. The study concluded that "reducing the dune height to +17 ft NAVD88 would result in increased risk of flood damage over most of the study area" (Moffatt & Nichol, *Cottage Lind Dune Integrity Assessment*, presented to City of Norfolk, Department of Public Works (April 21, 2014), http://www.norfolk.gov/DocumentCenter/View/15455).

Despite the engineering study, on June 11, 2014, the City's Wetlands Board voted to approve the homeowners' permits and allow dune modification. The environmental group Wetlands Watch appealed the City's decision to the Virginia Marine Resource Commission. On July 9, 2014, representatives from FEMA, the U.S. Army Corps of Engineers (USACE), the Virginia Institute of Marine Science, the Virginia Department of Conservation and Recreation, and the City met with

some of the permit applicants to answer questions related to dunes and National Flood Insurance Program (NFIP) requirements. Systematic dune management was discussed as a possible solution, and all parties strongly encouraged City representatives to commission an analysis and plan. On September 23, 2014, the Virginia Marine Resources Commission voted to postpone the appeal to January 2015 to give the applicants more time to continue their discussions with the City regarding a sand management plan.

Proposed Increases in Flood Hazards

On August 14, 2014, FEMA issued a preliminary revision of the City's FIRM. On September 9, 2014, FEMA held a final meeting with the community to explain and obtain comments on the preliminary FIRM. FEMA is in the process of providing formal notification of its proposed flood hazard determinations, which will trigger a 90-day statutory appeal period for FEMA's proposed determinations.

As noted in your letter, FEMA's restudy of the flood hazards and the preliminary FIRM increased the Special Flood Hazard Areas (SFHAs) to include areas formerly located outside the SFHA. They also depict sand dunes up to and inside property lines, as included in the Zone VE coastal high hazard area.

The National Flood Insurance Program (NFIP)

The NFIP is a voluntary program. If a community chooses to adopt and enforce floodplain ordinances consistent with the minimum floodplain management criteria established by FEMA's regulations, FEMA will make affordable flood insurance available in that community. (See 42 U.S.C. 4022; 4102(c); 44 CFR 60.3.) FEMA's floodplain management criteria establish a minimum threshold, but communities are encouraged to adopt more stringent floodplain standards (44 CFR 60.2).

Relevant to your letter, FEMA's floodplain management regulations prohibit the alteration of sand dunes in Zones V and VE that would increase potential flood damage (44 CFR 60.3(e)(7)). There is no prohibition to altering sand dunes in Zone AE, which is an "area of special flood hazard with water surface elevations determined" (44 CFR 64.3(a)(1)). Zone VE is an "area of special flood hazards, with water surface elevations determined and with velocity that is inundated by tidal floods (coastal high hazard area)" (*Id).* A coastal high hazard area is defined as "an area of special flood hazard extending from offshore to the *inland limit of a primary frontal dune* along an open coast and any other area subject to high velocity wave action from storms or seismic sources" (See 44 CFR 59.1). FEMA's regulations define a primary frontal dune as:

> [A] continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and

> overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

In Zone VE and coastal Zone A and AE areas, the City's floodplain ordinance states, "the intentional alteration of a Coastal Primary Sand Dune, as defined by state law (Code of Virginia Title 28.2), which causes an increase in the likelihood of flood damage is prohibited" (City of Norfolk, Floodplain Ordinance, Section 11-3.11(h)). The sand dunes in question are primary frontal dunes.

Under the National Flood Insurance Act, FEMA is required to identify areas of special flood hazards and other flood risk zones. FEMA complies with this mandate by conducting Flood Insurance Studies (FISs) and publishing preliminary and effective FIRMs. FIRMs delineate the SFHAs and other flood risk zones applicable to the community. Additionally, FEMA is required to assess the FIRMs every five years to determine whether a revision is necessary.

Floodplain Management Criteria

In your letter, you stated that FEMA representatives told some of your constituents that they would violate federal law if they modified the sand dunes in Zone AE on the current FIRM. FEMA's minimum criteria do not require a community to prohibit the alteration of a sand dune in Zone AE. The City's floodplain ordinance, however, is more stringent than FEMA's regulations and prohibits the alteration of primary frontal sand dunes in Zone AE. FEMA strongly supports the City's more stringent standards for the following reasons: 1) communities tend to have more knowledge of local conditions that warrant higher standards; 2) the engineering study commissioned by the City suggests that the alteration of the sand dune will decrease the dune's effectiveness in preventing flood damage; and 3) FEMA's preliminary map depicts the dunes in Zone VE, where stricter requirements exist. In addition, prohibiting dune alteration in Zone AE could potentially lower flood insurance premiums in the future.

City of Norfolk's FIRM

In your letter, you asked why FEMA's proposed update of the FIRM for the City of Norfolk shows a flood hazard different than that of the current FIRM. On the current FIRM, the SFHAs for the Chesapeake Bay and its tributaries are based on a tide gage frequency analysis performed in 1996, combined with overland wave analysis to determine the heights of the base (1-percent-annual-chance) flood elevation (BFE). The preliminary FIRM is based on a recently completed USACE storm surge study that used ADCIRC (Advanced Circulation Model for Oceanic, Coastal and Estuarine Waters) to determine the stillwater elevations for the flood events of various frequencies. The results of the modeling system were combined with overland wave run up and erosion analyses to determine the BFEs. A requirement for mapping coastal high hazard areas is the inclusion of primary frontal dune systems. Because the dune in this area meets the definition of a primary frontal dune, the new preliminary FIRM identifies the area as a Coastal High Hazard Area (Zone VE).

The City and its residents will have an opportunity to appeal FEMA's proposed flood hazard determinations before the FIRM becomes final.

Finally, you requested in your letter that FEMA representatives visit your constituents' properties and explain the zone designation changes indicated on the preliminary FIRM. You also requested a meeting with FEMA, your staff, and a few property owners to discuss the preliminary FIRM for the City and floodplain management standards related to sand dunes. FEMA staff could be available for a site visit and meeting before 2 p.m. on November 19, 2014, prior to the Open House meeting in Norfolk planned for that evening.

I hope this information is helpful to you in addressing the concerns of your constituents. If you need additional information or assistance, please have a member of your staff contact the FEMA Congressional Affairs Division by telephone at (202) 646-4500.

Sincerely,

Roy E. Wright
Deputy Associate Administrator for Mitigation
Federal Insurance and Mitigation Administration

cc: MaryAnn E. Tierney, Regional Administrator, FEMA Region III
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